

REMARKS

In the foregoing amendments, claims 15, 16, 18-21, and 30 were amended, and claims 31-38 were added to the application. Claims 1-14, 17, 24, and 29 were previously canceled. Accordingly, claims 15, 16, 18-23, 25-28, and 30-38 are pending in the application at this time.

Claims 27 and 28 were allowed in the outstanding Office action. Claims 15, 20, 23, 25, and 26 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent No. 5,068,656 of Sutherland. This rejection is set forth on pages 3 through 6 of the Official action. Claims 16, 22, and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. patent No. 5,025,253 of DiLullo *et al.* (DiLullo) in view of U.S. patent No. 5,515,043 of Berard *et al.* (Berard). This rejection is set forth on page 7 to the bottom of page 10 of the Official action. Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over DiLullo in view of U.S. patent No. 5,758,300 of Abe. This rejection is set forth on the bottom of page 10 through page 11 of the Official action. Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over DiLullo in view of U.S. patent No. 5,442,553 of Parrillo on page 12 of the Official action. Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over DiLullo in view of U.S. patent No. 5,299,132 of Wortham on pages 13 and 14 of the Official action. Applicant respectfully submits that claims 15, 16, 18-23, 25, 26, and 30-38 are patently

distinguishable from the teachings of Sutherland, DiLullo, Berard, Abe, Parrillo and/or Wortham within the meaning of 35 U.S.C. §102(b) and 35 U.S.C. §103(a) for at least the following reasons.

Page 2 of the Official action set forth some comments concerning the alleged intended use of construction machines in the arrangements set forth in applicant's claims. The Official action stated that if the prior art structure is capable of performing the intended use, then it meets the claim and that the teachings of Sutherland and of DiLullo can be used in the construction environment. Applicant respectfully submits that the teachings of Sutherland and DiLullo are not concerned with construction machines but primarily with long-haul trucks. Accordingly, the problems associated with construction machines and construction sites and the communication devices therefor of applicant's claims cannot be contemplated or suggested by the teachings of Sutherland and DiLullo. In order to emphasize this difference between these teachings and the claims of the present application, in the foregoing amendments, applicant's claims 15, 16 and 30 were amended to define means for periodically turning ON and OFF an electrical connection between the power source and the communication device, as shown, for example, in Fig. 7 of the present application. Claims 18-21 were amended to define that the communication device is arranged in a construction machine that has a period of rest or arrangement of rest that is distinguishable from a working time for

long-haul trucks, or has an operating speed lower than normal highway traveling speed, etc., which cannot be proposed by the teachings of Sutherland and DiLullo. Therefore, applicant respectfully submits that the presently claimed invention is patently distinguishable from the teachings of Sutherland and DiLullo for these reasons and those that follow.

Claims 15, 16, and 30 are concerned with a work site for a construction machine that is typically located at a remote place, such as in a mountain or other place of remote location. Determining the state of a construction machine working in such a place is best performed via a communication device. However, if the construction machine in such a remote location uses its battery during work-off time uses, the battery power will be consumed and can easily be completely discharged. This will cause a great deal of trouble when an attempt is made to start the construction machine. Claims 15, 16, and 30 define, among other things, an arrangement for this situation that can prevent battery drainage. Namely, claims 15, 16, and 30 define, among other things, a structure where the electric connection to the communication device is periodically turned on and off when an engine of the construction machine is stopped, thereby minimizing the electric power to be supplied to the communication device. The teachings of Sutherland and DiLullo do not remotely contemplate or suggest this arrangement in claims 15, 16, and 30.

The teachings of Sutherland propose a system for informing location information of a long-haul truck. Sutherland proposes that the location information is transmitted when the truck strays from a given route. However, the teachings of Sutherland do not describe or suggest that the electric connection to the communication device is periodically turned on and off when the engine of the construction machine is stopped. Similarly, the teachings of DiLullo do not describe or suggest that the electric connection to the communication device is periodically turned on and off when an engine of the construction machine is stopped. Therefore, the teachings of Sutherland and DiLullo cannot contemplate or suggest the invention set forth in claims 15, 16, and 30.

Claim 18 is concerned with a work site for a construction machine that is typically located at a remote place in a mountain or other place of remote location as was discussed above. Due to the remote location of the construction site, robbery, mischief, etc. can take place at night when nobody is present. Claim 18 requires, among other things, that a non-operative time is set for non-operation of the construction machine (detecting means for detecting that the engine of the construction machine started within a predetermined time zone), and start of the engine is monitored during the non-operative time. If the start of the engine is detected during the non-operate of time, this information is transmitted to the terminal device from the construction

machine, in order to deal quickly with problems such as robbery and mischief.

The teachings of DiLullo and Abe do not contemplate or suggest this arrangement of present claim 18. The teachings of DiLullo are directed to a vehicle of a long-distance transportation in which ID and position data of a vehicle are periodically transmitted from the vehicle to a central station. On the other hand, the teachings of Abe propose a system in which, at a trouble such as breakdown or damage of a vehicle, when a maintenance manual is requested, manual data is transmitted via a communication device. However, neither of these teachings contemplates or suggests monitoring or detecting the start of the engine during the non-operation time, nor that information concerning the start of the engine during the non-operation time is transmitted to the terminal device from the construction machine. Therefore, applicant respectfully submits that the combination of DiLullo and Abe cannot contemplate or suggest the invention defined in present claim 18.

Claim 19 defines, among other things, that the construction machine is managed based on the operating hours in which the construction machine works (i.e., total engine operating hours), and that information is transmitted to the terminal device, when the operating hours is increased by a specific amount. With this arrangement, the timing for taking actions such as maintenance can be known and communication costs can be reduced.

The teachings of DiLullo proposed that ID and position information of a vehicle is transmitted to a central station. However, these teachings do not contemplate or suggest the arrangement of managing the construction machine based on the operating hours in which the construction machine works (i.e., total engine operating hours), and transmitting such information to the terminal device, when the operating hours is increased by a specific amount. The teachings of Parrillo do not cure or rectify this deficiency in the teachings of DiLullo. Therefore, applicant respectfully submits that the invention set forth in claim 19 is patently distinguishable from the teachings of DiLullo and Parrillo.

Construction machines typically work in remote locations such as a construction site located in a mountain area. Claims 20 and 21 define arrangements where, *inter alia*, the location of the construction machine is detected after a request is made from a terminal device; and when it moves outside of a predetermined area or inside of a predetermined area (or a relative location of the construction machine in relation to a set range provided in the construction machine), this information is sent to the terminal device. When a construction machine unexpectedly leaves a work area, it can be assumed that a mishap, such as theft, occurred. When such unexpected removal of the construction machine from the work area is detected, rectifying action for such mishap can be taken swiftly, in accordance with applicant's invention.

Further, if a construction machine is stolen, the stolen machine could be transported to a port for shipping overseas. A specific area such as a port can be set as a predetermined area accordance with applicant's claim 20 or a relative location in accordance with applicant's claim 21. Therefore, if the construction machine enters the port area and its location is requested by the terminal device, the information of this location is transmitted to the terminal device and appropriate measures for the theft can be taken promptly for reducing damages to the owner of the construction machine.

The teachings of Sutherland and Wortham do not contemplate or suggest the arrangements set forth in present claim 20. Sutherland proposes a system for informing the position information of a truck, and proposes that the position information is transmitted when the truck is strayed from the set route. However, the teachings of Sutherland do not describe or suggest an arrangement *where a request is sent from the terminal to the construction machine*, and based on this request, the detecting means detects when the construction machine moves outside of a predetermined area or inside of a predetermined area (or a relative location of the construction machine in relation to a set range provided in the construction machine), and sends the requested location information to the terminal, such as required in these claims. The teachings of Wortham do not cure or rectify this deficiency in the

teachings of Sutherland. Therefore, the invention set forth in applicant's claim 20 is patently distinguishable from the teachings of Sutherland and Wortham.

Present claim 22 defines, among other things, detecting means for detecting a drop in voltage of a power source mounted to the structure machine, and when the voltage of the power source detected by the detecting means drops below a specified value, the construction machine information is sent to the terminal device from the construction machine. The teachings of Dillullo propose a system where ID provided in a vehicle and the position data is transmitted to a central station. However, these teachings do not describe or suggest that when a voltage of a battery drops below a set value, construction machine information is transmitted, as required in claim 22. The teachings of Berard propose a technique in which when a voltage of a battery of a vehicle drops below a set value, an auxiliary battery is charged when the vehicle is working. For these reasons, applicant respectfully submits that the combination of Dillullo and Berard cannot contemplate or suggest a detecting means for detecting a drop in voltage of a power source mounted in the construction machine, and when the voltage of the power source detected by the detecting means drops below a specified value, this construction machine information is sent to the terminal device from the construction machine, as required in present claim 22.

In the rejection of claim 22, the Official action acknowledged that DiLullo does not suggest detecting means for detecting a drop in voltage of a power source mounted in the construction machine, when the voltage of the power source detected by the detecting means drops below a specified value, and the construction machine information is sent to the terminal device from the construction machine (claim 22). The Official action stated that this limitation is well known in the art of telecommunications. Applicant respectfully submits that this limitation in the present claims is not known in the art, especially in connection with construction machines. Therefore, applicant respectfully request that the examiner cite such a teaching reference or remove this rejection of claim 22.

Claim 23 is concerned with avoiding repeated transmission of the same information by a previous transmission and a current transmission. In present claim 23, contents of information transmitted previously and to be transmitted currently are compared, and if they are the same, current transmission is not performed. With the arrangements in claim 23, communication cost is reduced and the communication center receives only updated or changed information.

The teachings of Sutherland propose a system to inform the position data of a truck. However, the teachings of Sutherland do not describe or suggest that only different or updated information is transmitted as required in claim 23. In particular, the teachings of Sutherland do not contemplate or suggest

the limitations in claim 23, inter alia, that the location information of the construction machine is sent to said terminal device from said construction machine *when a content of construction machine-related data to be sent this time differs from a content of construction machine-related data sent at a previous time*. Therefore, the invention set forth in applicant's claim 23 is patently distinguishable from the teachings of Sutherland.

The teachings of Sutherland do not contemplate or suggest the subject matter of claims 25 and 26 where information is automatically sent each time a construction machine enters or exits to or from specified areas, such as a work site and a business office. The administration areas of construction machines are established at a business office and a work site construction sites. According to the invention set forth in claims 25 and 26, information is automatically sent to a terminal device at the administrator side when a construction machine exits the administration area or enters into the administration area. Therefore, it is possible to easily determined on the administrator side that the construction machine exists in a normal administration area or an abnormal situation and that the construction machine is out of the management area. If a construction machine exists at a place other than these specified areas, an increased possibility that an abnormal situation has occurred, such as where the construction machine is being illegally transported. The teachings of Sutherland propose a device for

detecting the position of a trailer. However, these teachings do not describe or suggest that information is automatically sent each time a construction machine enters or exits to or from specified areas, such as a work site and a business office, as required in claims 25 and 26.

Further, the teachings of Sutherland do not disclose or suggest a configuration of claim 26 comprising, *inter alia*, when a construction machine exits from a prescribed place, location data is sent from the construction machine each time the construction machine moves a predetermined distance, and, based on the sent location data, movement data of the construction machines is managed. For all these reasons, applicant respectfully submits that claims 25 and 26 are patently distinguishable from the teachings of Sutherland.

New claims 31-38 are patently distinguishable from the teachings of Sutherland, DiLullo, Berard, Abe, Parrillo and/or Wortham for the reasons set forth above. For all the foregoing reasons, applicant respectfully submits that the teachings of Sutherland, DiLullo, Berard, Abe Parrillo and/or Wortham cannot disclose or suggest the invention as set forth in claims 15, 16, 18-23, 25, 26, and 30-38 within the meaning of 35 U.S.C §102(b) or 35 U.S.C §103. Therefore, applicant respectfully requests that the examiner reconsider and withdraw the rejections of these claims over these teachings, and allow these claims together with allowed claims 27 and 28.

The foregoing is believed to be a complete and proper response to the Official action mailed April 20, 2005. While it is believed that all the claims in this application are in condition for allowance, should the examiner have any comments or questions, it is respectfully requested that the undersigned be telephoned at the below listed number to resolve any outstanding issues.

In the event that this paper is not timely filed, applicant hereby petitions for an appropriate extension of time. The Commissioner is hereby authorized to charge the fee therefor, as well as any deficiency in the payment of the required fee(s) or credit any overpayment, to our Deposit Account No. 22-0256.

Respectfully submitted,
VARNDELL & VARNDELL, PLLC



R. Eugene Varndell, Jr.
Attorney for Applicants
Registration No. 29,728

Atty. Case No. VX012358 PCT
106-A South Columbus Street
Alexandria, VA 22314
(703) 683-9730

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